

Docket No.: 10010107-1
AGIL-27,349
(PATENT)

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A serial communications link comprising:

- 2 a scrambler device for receiving a source encoded data bit stream, the scrambler device
scrambles the data bit stream on a group-wise basis to produce scrambled groups of data to
4 statistically balance the number of logic low and logic high bits in the groups of data; and
an ECC encoder device that receives the scrambled groups of data from the scrambler
6 device and converts said scrambled groups of data into ECC-encoded data, said ECC-encoded
data comprises ECC redundant code that comprises implicit frame alignment information.

2. (Currently Amended) The system as recited in Claim 1, further comprising:

- 2 a serializer for converting said ECC-encoded data into serialized data; ~~wherein the ECC-~~
~~encoded data includes frame alignment information; and~~
4 ~~the system further comprises a receiver for receiving said serialized data and converting~~
the serialized data into data frames based upon the implicit frame alignment information.

3. (Previously Presented) The system as recited in Claim 2, wherein the receiver

2 comprises:

- a frame-recoverer for converting said serialized data into data frames;
4 an ECC decoder for converting said data frames into ECC-decoded data and error
indications; and
6 a descrambler for converting said ECC-decoded data into de-scrambled data.

4. (Previously Presented) The system as recited in Claim 3, wherein said frame-

2 recoverer uses said error indications in converting said serialized data into data frames.

5. (Cancelled)

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6. (Currently Amended) A serial communications method, comprising the steps of:

2 receiving a data bit stream, from an originating source, at a scrambler device, said data
bit stream comprising data bits and other bits;

4 converting, on a group-wise basis, said data bit stream into groups of scrambled data, by
said scrambler device, prior to performing another data function on said data bit stream, said

6 groups of scrambled data each comprising groups of data bits having a statistically balanced
number of logic low and logic high data bits; and

8 converting said scrambled data into ECC-encoded data, said ECC-encoded data
comprises redundant code that comprises implicit frame alignment information.

7. (Original) The method as recited in Claim 6, further comprising the steps of:

2 generating a serial stream of the ECC-encoded data; and

transmitting said serial stream.

8. (Currently Amended) The method of Claim 7, wherein:

2 ~~the ECC-encoded data includes frame alignment information; and~~

the method further comprises receiving said serialized data and converting said serialized

4 data into data frames based upon said implicit frame alignment information.

9. (Original) The method of Claim 7, further comprising:

2 receiving said serialized data;

converting said serialized data into data frames;

4 converting said data frames into ECC-decoded data and error indications; and

converting said ECC-decoded data into de-scrambled data.

10. (Original) The method of Claim 9, wherein the step of converting the serialized data

2 comprises converting the serialized data into data frames based upon said error indications.

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11. - 33. (Canceled)

34. (Currently Amended) A serial communication link comprising:

- 2 a scrambler device programmed to convert, on a group-wise basis, a received bit stream
into groups of K scrambled data bits so as to statistically balance the number of logic low and
4 logic high bits in each group of K scrambled data bits, said received bit stream being without
redundant bits and being substantially only source encoded prior to being scrambled; and
6 an ECC encoder programmed to convert said scrambled data into ECC-encoded data,
said ECC-encoded data comprises redundant code that comprises implicit frame alignment
8 information.

35. (Currently Amended) A serial communications link comprising:

- 2 a scrambler device for receiving a data bit stream being substantially only data source
encoded, the scrambler device scrambles the data bit stream on a group-wise basis into
4 scrambled groups of data; and
an ECC encoder device that receives the scrambled groups of data from the scrambler
6 device and converts said scrambled groups of data into ECC-encoded data, said ECC-encoded
data comprises redundant code that comprises implicit frame alignment information.

36. (Currently Amended) A serial communications method, comprising the steps of:

- 2 receiving a data bit stream at a scrambler device, said data bit stream comprising data bits
and other bits resulting from data source encoding;

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- 4 converting, on a group-wise basis, said data bit stream into grouped scrambled data, by
said scrambler device, prior to performing another data function on said data bit stream; and
- 6 converting said scrambled data into ECC-encoded data, said ECC-encoded data
comprises redundant code that comprises implicit frame alignment information.

37. (Currently Amended) A serial communication link comprising:

- 2 a scrambler device programed to convert, on a group-wise basis, a source encoded data
bit stream into grouped scrambled data; and
- 4 an ECC encoder programmed to convert said scrambled data into ECC-encoded data,
said ECC-encoded data comprises redundant code that comprises implicit frame alignment
- 6 information.